



Theodiversity

Ara Norenzayan

Department of Psychology, University of British Columbia, Vancouver,
British Columbia V6T 1Z4 Canada; email: ara@psych.ubc.ca

Annu. Rev. Psychol. 2016. 67:21.1–21.24

The *Annual Review of Psychology* is online at
psych.annualreviews.org

This article's doi:
10.1146/annurev-psych-122414-033426

Copyright © 2016 by Annual Reviews.
All rights reserved

Keywords

atheism, WEIRD, cognition, cultural evolution, culture, gods, religion, ritual, sacred values, secularization, supernatural beliefs, theodiversity

Abstract

Humanity is teeming with breathtaking theodiversity—in religious beliefs, behaviors, and traditions, as well as in various intensities and forms of disbelief. Yet the origins and consequences of this diversity have received limited attention in psychology. I first describe how evolved psychological processes that influence and respond to cultural evolutionary trajectories generate and channel religious diversity. Next, I explore how theodiversity in turn shapes human psychology, and discuss three cultural dimensions of religious diversity in relation to psychological processes: (a) the cultural shift from small foraging bands and their local religious practices and beliefs to large and complex groups and their world religions, (b) cultural variability among world religions, and (c) secularization and the ensuing cultural divide between religious and nonreligious societies and subcultures. The contributions of psychology to the scientific study of religion will increase with a deeper understanding of theodiversity.

Contents

WHAT IS THEODIVERSITY?	21.2
Why Theodiversity?	21.3
Two Features of Theodiversity	21.3
The WEIRD Challenge	21.4
The Definitional Challenge	21.5
PSYCHOLOGICAL BUILDING BLOCKS OF THEODIVERSITY	21.5
Cognitive Processes	21.5
Motivational Processes	21.7
Cultural Learning Processes	21.7
Interacting Psychological Processes	21.8
FROM SMALL GODS TO BIG GODS	21.8
Theodiversity of Supernatural Beings Across Cultures	21.8
Big Gods, Organized Rituals, and Parochial Prosociality	21.9
THEODIVERSITY WITHIN WORLD RELIGIONS	21.10
Orthodoxy Versus Orthopraxy	21.10
Prosocial Behavior	21.12
Karma, Fate, Immanent Justice, and the Evil Eye	21.13
FROM BIG GODS TO NO GODS	21.14
Atheodiversity	21.14
The Religious Versus Nonreligious Divide	21.15
CONCLUSION	21.17

WHAT IS THEODIVERSITY?

Religions are, and have always been, a widespread feature of life in human societies (e.g., Bering 2011, Boyer 2001, Bulbulia 2008, Sosis & Alcorta 2003). Yet, despite their reliable recurrence across cultures and history, they are, and have always been, tremendously diverse. This theodiversity¹ can be immense. In one estimate, there are 10,000 religious traditions in the world today (Barrett et al. 2001). These traditions reflect a seemingly endless variety of beliefs, commitments, and practices that are deeply influential in the lives of practitioners of a particular tradition, and simultaneously baffling to interested observers who are looking in from the outside.

Consider beliefs about supernatural beings. At one extreme end of a cultural continuum, for example, among the Hadza, a foraging group in Tanzania, one encounters Haine/Ishoko, the moon/sun god, who appears to have little or no supernatural powers and dwells in indifference to human affairs (Marlowe 2010). Tuvan pastoralists in southern Siberia have beliefs about spirit masters who must be appeased with offerings when they pass through the territories they rule, but who are otherwise uninvolved in human affairs (Purzycki 2013). At the other extreme of this continuum, there is, of course, the Big God of the Abrahamic faiths who knows everything, cares deeply about how people treat each other, punishes violations of norms no matter where they occur, and instills fear and awe among adherents (Norenzayan 2013).

Theodiversity:
diversity in religious
beliefs, behaviors,
rituals, and traditions

¹For an introduction to the term, and an entertaining discussion of theodiversity, see Lester (2002).

Or consider the centrality of ritualized behaviors in human group life. Ritualized behaviors are widespread in human life and are often bundled with supernatural beliefs and coopted by religions (Legare & Watson-Jones 2015, McCauley & Lawson 2002). But they also come in various intensities and varieties, making them another key driving force of theodiversity. Take, for example, the Thaipusam festival in many diasporic Tamil Hindu communities. Those who take part in the most extreme rituals, the Kavadi, engage in painful ordeals such as piercing their bodies with needles and skewers and walking barefoot for hours dragging carts hooked to their skin to reach the temple of the war god Murugan (Xygalatas et al. 2013). Other ritualized behaviors mark significant events or life cycles (Rappaport 1999) or tap an altogether different motivation—that of avoiding contamination and impurity, such as the ritual washing and cleaning found in many religions (Fiske & Haslam 1997).

Theodiversity has received scant attention from psychology.² In this article, I address this gap first by outlining two critical features of theodiversity that demand explanation and by highlighting methodological issues at the center of attempts to study theodiversity. Next I explore how psychological processes, responding to cultural evolutionary pressures, create and sustain theodiversity, including different shades, forms, and intensities of irreligion. Next I explore how, in turn, culturally transmitted theodiversity shapes psychological outcomes. Throughout, I discuss implications for the scientific study of religion and related phenomena.

Why Theodiversity?

What can psychology contribute to the study of theodiversity to complement the contributions from anthropology, history, sociology, and religious studies? First, just as there are biological regularities underlying the great biodiversity of the planet, there are underlying psychological regularities that channel and constrain the great theodiversity in human populations. Therefore, some of the important explanations of the mental origins and contours of theodiversity, including secularization trends, can be found in psychology. Psychology also holds important clues regarding the differential cultural survival rates of religious ideas, practices, and traditions.

Second, theodiversity is crucial for a more complete understanding of the cultural history of many psychological processes. This is because human brains depend on cultural, in addition to genetic, inheritance to an extent unparalleled in other species (Richerson & Boyd 2005). One consequence is that many psychological processes are culturally variable (Heine & Norenzayan 2006, Henrich et al. 2010). A great deal of this variability has religious origins (Cohen 2015), with implications for core topics such as cooperation, self-regulation, cognitive development, perception and attention, risk-taking, prejudice, intergroup conflict, social cognition, and moral psychology. Third, some psychological barriers contribute to the cultural divides of our time—between religious and nonreligious groups as well as among rival religious groups. These divides, and the need to find ways to bridge them, motivate greater understanding of theodiversity within pluralistic societies and in regional and global conflicts (e.g., Atran 2010, Haidt 2012).

Two Features of Theodiversity

First, theodiversity is far from static. Throughout history, religious traditions are dynamically evolving in a process of cultural evolution—nongenetic, socially transmitted, cumulative changes

Ritual: socially stipulated, causally opaque group convention

Cultural evolution: cumulative changes over time in beliefs and behaviors that often generate cultural diversity

²Religious diversity has been the focus of rich literatures in several academic fields, including philosophy (Taylor 2007), history (Bellah 2011, Smith 1982), anthropology (Atran 2002, Boyer 2001), sociology (Berger 2014), and religious studies (Taves 2009).

Western, educated, industrialized, rich, and democratic (WEIRD): refers to the disproportionate reliance in psychology on samples drawn from these populations

in beliefs and behaviors over time (Richerson & Boyd 2005). Just in the last 200 years, several religious movements have sprung up, proliferated, and altered the cultural landscape around the world, such as the Mormon Church, the Pentecostal Church, Baha'i, Chabad-Lubavitch, Cao Dai, Shinnyo-en, and the Raelian movement, to name a few.

Second, religious ideas and practices that make up a tradition have markedly different rates of cultural survival that depend on their psychological sticking power. Almost all religious movements that have ever existed eventually succumbed to myriad internal and external threats that undermined social cohesion, demographic stability, and cultural longevity (for evidence from a historical analysis of religious communes, see Sosis 2000). One consequence of this winnowing process is that theodiversity is nonrandom: The vast majority of humanity adheres to a very few religious traditions that have come to be known as world religions (Norenzayan 2013). Christian, Muslim, Jewish, Hindu, and Buddhist practitioners, including their nonbelieving descendants, collectively account for over 93% of all human beings on the planet (Pew Res. Cent. 2012). The triple success of these world religions—their demographic growth by conversion or conquest, their high fertility rates and geographic expansion across the globe, and their historical persistence—is a fundamental feature of the world's theodiversity.

The WEIRD Challenge

Psychology has a treasure trove of methodological tools and techniques that are just beginning to be deployed to study religious cognition and behavior and their psychological antecedents and effects. But to expand and deepen psychology's contribution to the study of religion and theodiversity, the field must overcome its heavy dependence on Western, educated, industrialized, rich, and democratic (WEIRD) cultural samples that represent a thin and often unrepresentative slice of humanity (see Henrich et al. 2010b and associated commentaries). Participants in psychological studies are disproportionately from modern, industrialized societies. Of those, the overwhelmingly majority come from Western societies. Of those Westerners, the great majority are Americans, and of those Americans, most are university undergraduates. This sampling bias creates various and far-reaching ramifications for psychology (see Arnett 2008; Heine & Norenzayan 2006; Medin & Atran 2004; Medin et al. 2010; Nisbett 2003; Norenzayan & Heine 2005; Rozin 2007, 2009; Sears 1986). Here I concentrate on its consequences for the study of religion and theodiversity.

One unintended consequence of the narrow focus of psychology is that many aspects of human behavior that are profoundly important to people in the world are overlooked (Rozin 2007). Religion is a prime example of this, despite great interest among founders of psychology (e.g., James 1902). Most of the world is deeply religious (Pew Res. Cent. 2012), but religion rarely makes an appearance in standard psychology textbooks and, relative to its importance, is an understudied topic (Bloom 2012, Rozin 2007). As an illustration, the *Annual Review of Psychology*, in its 67-year history, has devoted only four articles to religion, two of which were published in the last four years, reflecting a recent resurgence of interest (Bloom 2012, Emmons & Paloutzian 2003, Gorsuch 1988, and the present article). (In contrast, I counted at least 18 articles in the journal devoted to some aspect of language and 7 articles on sex.)

Another side effect of the WEIRD lens is that the psychological study of religion often treats the Abrahamic religions as the culturally typical religions. But these religions, although globally successful, are cross-culturally atypical products of particular cultural evolutionary trajectories. Going further, some have argued that psychology's implicit model of religion, influenced by James's (1902) and Allport's (1950) seminal contributions, has been narrowly anchored in Protestantism, which happens to be the religious tradition from which early influential American psychologists came from (Cohen 2015, Cohen et al. 2005). This home-field disadvantage (Medin et al. 2010)

is compounded by the stark overrepresentation of psychology participants coming from Judeo-Christian traditions, and in particular Americans, who are disproportionately Protestant or shaped by Protestant undercurrents (Sanchez-Burks & Lee 2007, Uhlmann & Sanchez-Burks 2014).

The Definitional Challenge

Once the field transcends WEIRD sampling, the study of theodiversity can take off. Greater focus on theodiversity in turn holds the keys to the solution to another perennial methodological issue that has plagued the study of religion: the coherence of the very term religion in the humanities and social sciences (Stausberg 2010, Taves 2009). In everyday life in the Western world, we often talk about religion as if it were a unitary phenomenon that applies to people as a whole (for example, we ask, “Is she religious?”). But despite many efforts, there has been little scholarly agreement on a common definition. This is because theodiversity is itself a central characteristic of religions now and throughout history, and even within the same culture and historical period (Norenzayan 2013; see also Taves 2009 for a related but distinct account). Once we understand this, the definitional problem of religion vanishes.

Put another way, we cannot explain religion without explaining theodiversity, just as we cannot fully explain the evolution of life without explaining the evolution of biodiversity. This realization also helps solve another related puzzle: why religion often has contradictory and paradoxical consequences for human psychology. The examples are many, but here are two. For certain psychological outcomes, what kind of an afterlife people believe in (heaven or hell) is more important than whether people believe in an afterlife. In cross-national studies, and controlling for a number of factors, belief in hell is associated with reduced national crime rates, whereas belief in heaven is associated with increased crime rates (Shariff & Rhemtulla 2012). Other studies have found that what kind of a god people believe in matters a great deal. For example, perceptions of a controlling god reduce goal pursuit and increase peoples’ ability to resist temptations, whereas perceptions of a distant god do not have these effects (Laurin et al. 2012).

PSYCHOLOGICAL BUILDING BLOCKS OF THEODIVERSITY

For a given person to believe in a given deity or deities and engage in rituals, he or she must (*a*) be able to form intuitive mental representations of supernatural agents and related rituals and practices; (*b*) be motivated to commit to supernatural agents and rituals as real and relevant sources of meaning, comfort, and control; and (*c*) have received specific cultural inputs that, of all the mentally representable supernatural agents, one or more specific deities should be believed in and committed to (Norenzayan & Gervais 2013). This premise leads to the conclusion that there are core cognitive, motivational, and cultural learning mechanisms underlying theodiversity.

Cognitive Processes

Religious beliefs and practices are rooted in ordinary cognitive capacities that make them intuitive (Barrett 2004, Boyer 2001, McCauley 2011). One such cognitive frame is mind-body dualism (Bloom 2004). It appears that human brains are prepared to grasp this notion, leading to cross-cultural regularities (e.g., Chudek et al. 2014) and enabling belief in a variety of disembodied supernatural agents such as ancestor spirits, ghosts, and personal gods in a wide range of cultures (Barrett 2004, Bering 2011, Guthrie 1993). Another is a possibly domain-general teleological bias (Banerjee & Bloom 2014, Kelemen 2004). This untutored intuitive stance appears to develop early in childhood and is hypothesized to encourage creationist beliefs, making children and adults

Mind-body dualism:
the intuition that
minds can exist
separately from bodies

Teleological bias:
the domain-general
intuition that people,
things, and events
reflect purpose and
design

Anthropomorphism: the cognitive tendency to project human-like traits to the nonhuman world

Mentalizing: a suite of cognitive tendencies to detect and infer the content of other minds

intuitive theists (Heywood & Bering 2014, Kelemen 2004, Kelemen & Rosset 2009). Consistent with the idea that religious belief is anchored in intuitive or System 1 cognitive processes, research shows that analytic or System 2 cognitive processes that can override or block intuitive thinking lead to the weakening of religious belief (for a review of the theory and evidence, see McCauley 2011, Norenzayan & Gervais 2013).

Anthropomorphism is another recurrent theme in theodiversity and an idea that has a long intellectual history [Epley et al. 2007, Guthrie 1993, Hume 1956 (1757)]. The tendency to anthropomorphize the world is more pronounced under some specific conditions, namely when anthropocentric knowledge is salient, under uncertainty and explanatory gaps, and when the desire for social connection is thwarted (see Epley et al. 2007). Anthropomorphism is implicated in religious belief in two ways. People are particularly prone to projecting human-like mental states (more than physical or biological attributes) to supernatural beings. Also, the tendency to anthropomorphize is sometimes overextended to the natural world; when mountains, trees, rocks, and rivers are infused with human-like agency, the result is the animistic beliefs found in many traditional cultures (Guthrie 1993) as well as in modern-day spirituality (A. Willard & A. Norenzayan, unpublished manuscript). Although there are strong theoretical reasons to expect that cross-cultural regularities in all of these cognitive tendencies will play a role in religious thinking, the growing empirical literature remains largely confined to WEIRD samples. An important opportunity for future research is to explore the extent to which these hypothesized observations generalize.

There is also a dearth of research exploring interconnections among these cognitive tendencies. One preliminary hypothesis is that all these tendencies share a cognitive capacity for mind perception or mentalizing (Epley 2014, Waytz et al. 2010). Mentalizing enables believers to think about the mental states of supernatural beings; when they do, their projections betray an egocentric bias (Epley et al. 2009). Willard & Norenzayan (2013; see also Banerjee & Bloom 2014, Gray et al. 2010) found that mentalizing tendencies increase dualistic intuitions and to a lesser extent teleological thinking, and in turn these two tendencies increase belief in god, belief in paranormal events such as astrology, telepathy, and UFOs, and the conviction that life has meaning and purpose.

Cognitive explanations are also important for understanding rituals, another key component of many religious systems. Growing research is filling an important gap in the literature under the rubric of ritual cognition, by examining how people mentally represent, evaluate, and enact rituals (see Legare & Watson-Jones 2015, Schjoedt et al. 2013). Despite their diversity, rituals are characterized by some predictable cognitive regularities, such as repetition, redundancy, stereotypy, and causal opacity (Whitehouse 2004). Legare & Souza (2012) find that the perceived efficacy of rituals is influenced by intuitions such as repetition of procedures and number and specificity of procedural steps, independent of familiarity with the ritual content.

Two cognitive principles of magical thinking—similarity and contagion—are also rooted in intuitive processes and are important for explaining theodiversity [Nemeroff & Rozin 2000, Tylor 1974 (1871)]. The principle of similarity (the image equals the object) explains, for example, why a Buddha statue is felt to have a special connection with the real Buddha; and the principle of contagion (once in contact, always in contact) explains why the relic of a saint is believed to have healing properties. Importantly, once intuitions about supernatural beings, magic, and ritual-behavior complexes are in place, they coexist with other ordinary causal intuitions and beliefs. In other words, far from being psychologically incompatible, natural and supernatural intuitions exist in explanatory coexistence (Legare et al. 2012) in the way people make sense of the everyday world around them.

Motivational Processes

Whereas cognitive biases help explain how the diverse religious beliefs and ritual patterns are mentally represented and why they have the particular cognitive features that they do, core human motivations help explain when people come to commit to supernatural agents as potent, meaningful, and relevant to their everyday lives (see Johnson et al. 2015). There is mounting evidence that religious beliefs relieve a variety of existential anxieties (Atran 2002, Kay et al. 2009), and when these anxieties are heightened, religious beliefs are more likely to persist and spread in human minds. Cross-culturally, societies with greater existential threats, such as poverty, hunger, job insecurity, short-life spans, and high infant mortality, are far more likely to be religious (Norris & Inglehart 2004). Exposure to unpredictable and potentially catastrophic natural disasters such as earthquakes similarly increases the likelihood of religiosity in a given society, controlling for a wide range of relevant demographic and economic variables (Bentzen 2013). In fact, one study found that religious commitment increased immediately after a severe earthquake even in a secularizing country such as New Zealand, but only among citizens who were directly affected by it (Sibley & Bulbulia 2012). Experimental research supports these findings. Threats to psychological control (Kay et al. 2009), predictability (Rutjens et al. 2010), social isolation (Epley et al. 2007), and immortality (Dechesne et al. 2003, Norenzayan & Hansen 2006, Vail et al. 2012) intensify commitment to personal gods who offer immortality, meaning, external control, social bonding, and stability.

Motivational biases also play a role in regulating collective rituals. Boyer & Lienard (2006) propose that many collective ritualized behaviors are intuitively compelling and likely to spread because they are rooted in a “hazard precaution” motivational psychology that is triggered when a real or symbolic threat to safety or purity is detected. Legare & Souza (2014) find evidence that randomness primes increase the perception of ritual efficacy, suggesting that the latter serves a motivational function to alleviate threats to control.

Cultural Learning Processes

Our understanding of theodiversity is incomplete without a consideration of the cultural nature of human brains, which are intensely dependent on socially transmitted information from other brains to an extent unseen in other species (Chudek et al. 2015, Richerson & Boyd 2005). Cultural learning mechanisms enable a process of cultural evolution that accumulates knowledge and know-how over generations (Tomasello 2001) and runs parallel to, and interacts with, genetic evolution (Richerson & Boyd 2005). Human beings, as cultural learners, possess a conformist bias (i.e., they selectively attend to beliefs and behaviors that are held by the majority in their group), as well as a prestige bias, which influences cultural transmission in favor of cues of perceived skill or success (Chudek et al. 2015). However, the fitness benefits of learning from others, particularly prestige-wielding individuals, are offset by learners’ vulnerability to the so-called evil teacher problem, which opens the door to being duped or misinformed (Chudek et al. 2015). Human minds are therefore equipped with epistemic vigilance (Sperber et al. 2010), or a suite of preferences that guard against such manipulation. One important remedy is a tendency in cultural learners to also be sensitive to cues that a cultural model is genuinely committed to his or her advertised belief.

Therefore, when actions speak louder than words, cultural learners are more likely to be influenced by, and in turn transmit, beliefs backed up by persuasive credibility-enhancing displays (CREDS; see Henrich 2009). CREDS are hypothesized to be important in any domain of life where social influence matters. Because proselytizing religious groups spread in no small part by social influence (and not just via ancestry), these displays are likely to be important in these communities,

Credibility-enhancing displays (CREDS):

extravagant, sometimes costly behaviors that cultural models display, conveying underlying beliefs to cultural learners

too. The idea is that CREDs mitigate religious hypocrisy or the perceived threat of interacting with imposters who are not true believers (Norenzayan 2013). This is one explanation for why some religious groups promote restrictions on diet, dress, and sexual relations; painful rituals and fasts; and in some extreme cases even martyrdom. Such extravagant and costly behaviors have also been explained as commitment signals that promote cooperation (see Bulbulia 2008, Sosis & Alcorta 2003).

There is also growing evidence that rituals arise from the reliably developing psychological sensitivity to learn the social conventions of one's cultural group, which are also driven by cultural learning mechanisms (Legare & Watson-Jones 2015, Schjoedt et al. 2013). Consistent with this, young children are high-fidelity imitators even at the expense of personal experience or intuition (Nielsen & Tomaselli 2010). Ritual cognition is driven by conventional reasoning, which, unlike the causal reasoning that has received the bulk of attention in psychology (Legare & Souza 2012), is socially determined and causally inscrutable (Sørensen 2007).

Interacting Psychological Processes

There is much that is yet to be known. Nevertheless, taken together the psychological processes just described give us an increasingly coherent picture of how religious beliefs and practices are enabled, transmitted, and stabilized; why some elements of religions are recurrent and others culturally variable; and why some conditions foster secularization (Gervais et al. 2011, Norenzayan 2013). Cognitive tendencies have been the main focus and the source of much progress in the cognitive science of religion (Barrett 2000, Boyer 2001, Purzycki 2013, Sperber 1996), and they help explain how people mentally represent supernatural beings and shape intuitions about plausible ritual forms. Motivational biases are also crucial. They help us understand which variants of these intuitively plausible supernatural agents and rituals, in what psychological contexts, and for which individuals and groups, become relevant sources of meaning, comfort, and order (Kay et al. 2009, Norris & Inglehart 2004).

Cultural learning mechanisms explain several remaining pieces of the puzzle related to the differential spread of particular versions of religious beliefs and behaviors across cultural groups and throughout history. People selectively acquire religious beliefs and practices from the majority and from prestigious individuals in their communities, leading to cultural diversity that can persist but can also change over time when cues that trigger these mechanisms are altered (Gervais et al. 2011). CREDs help us explain why religious ideas backed up by credible displays of commitment are more persuasive and more likely to spread. In turn, we can understand why such extravagant displays are common in world religions and tied to deepening commitment to supernatural agents.

FROM SMALL GODS TO BIG GODS

Theodiversity of Supernatural Beings Across Cultures

In the Abrahamic traditions (Christianity, Islam, Judaism) and their offshoots, as well as in other world religions such as Buddhism and Hinduism, the religious group is an imagined moral community that unites large populations of strangers otherwise divided by ethnicity, geography, and language. In these communities, people are socialized to suppress selfishness in favor of broader community interests (Graham & Haidt 2010, Norenzayan 2013). But if there is one critical lesson to be taken from the ethnographic and historical record of the psychological study of religion, it is this: Even though all known societies have beliefs in gods and spirits, the linkage between

religions and morality is a rather recent cultural development that is found in some places but not others.

Ethnographic observations have shown that in foraging societies, people face important cooperative challenges and possess a sophisticated set of local moral norms that apply to a wide range of domains, including food sharing, caring of offspring, kinship relations, marriage, leveling of risk, and mutual defense (Kelly 1995). Yet religion's moral scope, if any, is minimal; the gods tend to have limited omniscience and limited moral concern, and they may demand certain rituals and sacrifices but care little about how people treat each other (Boyer 2001, Marlowe 2010, Purzycki 2011, Swanson 1960). Anthropologist Frank Marlowe (2010), who has done pioneering research with the Hadza foragers of Tanzania, describes Hadza religion this way:

I think one can say that the Hadza do have a religion, certainly a cosmology anyway, but it bears little resemblance to what most of us in complex societies (with Christianity, Islam, Hinduism, etc.) think of as religion. There are no churches, preachers, leaders, or religious guardians, no idols or images of gods, no regular organized meetings, no religious morality, no belief in an afterlife—theirs is nothing like the major religions. (p. 61).

In foraging societies, the gods are typically distant and indifferent. But as communities increase in complexity and size, the gods' powers and moral concern also become greater. For example, in his fieldwork with pastoralists among Tuvans in Siberia, Purzycki (2011) reported that local spirit masters known as *Cher eezi* are pleased by ritual offerings and are angered by the overexploitation of resources, but only of the ones that they directly oversee. They exert their powers in designated areas found in ritual cairns known as *ovaa*. *Cher eezi* do not see far and cannot intervene in distant places. Similarly, in chiefdom societies such as Fiji that exhibit a larger and more hierarchical social organization than foragers do, local supernatural beings also have some limited powers and some moral concern, though far less than the gods of world religions (McNamara et al. 2015). By the time we get to state-level societies, Big Gods predominate and religion becomes intensely intertwined with public morality (Norenzayan 2013, Roes & Raymond 2003).

From a cultural evolutionary perspective, these findings make sense. In small-scale societies, where face-to-face interactions are the norm, people build cooperative communities that draw on kin altruism, reciprocity, and a rich repertoire of local cultural norms that enforce cooperation (Henrich & Henrich 2007)—without needing to lean on watchful, interventionist gods. But as societies scale up and groups get too large, anonymity rapidly invades interactions, and free riding threatens to undermine cooperation. Similarly, societies with greater exposure to ecological threats, such as water scarcity and climatic instability, face collective action problems that, if not curbed by cultural norms, can be fatal to the survival of the group (Botero et al. 2014). These conditions therefore promote widespread belief in watchful gods and other norm-enforcing practices that contribute to maintaining large-scale prosociality (see Norenzayan et al. 2015).

Big Gods, Organized Rituals, and Parochial Prosociality

Other elements of the religious system appear to follow a similar pattern across cultures. In an analysis of an extensive cross-cultural database of the world's cultures, Atkinson & Whitehouse (2011) found that doctrinal rituals—the high-frequency, low-arousal rituals commonly found in modern world religions (Whitehouse 2004)—are associated with greater belief in Big Gods, reliance on agriculture, and societal complexity. Doctrinal rituals have many effects, among which is to deepen commitments to communities. Other rituals and practices, such as the confessional in

Catholicism, may also contribute to in-group prosociality. For example, McKay et al. (2013) found that Catholics who were led to recall a sin that was absolved by the church donated more money to the church compared to Catholics who recalled a sin that was not yet absolved. Collective action at vast scales is hard to achieve in large, complex groups, hence the importance of enshrining certain cultural norms that pertain to the entire group as metaphysically grounded sacred values (Rappaport 1999) that are divinely ordained and therefore universally applicable and non-negotiable (Norenzayan et al. 2015). This is also why the prosociality that world religions inculcate in their adherents is typically not indiscriminate, but groupish and parochial, fostering community interests in intergroup competition (Atran & Ginges 2012, Haidt 2012, Norenzayan 2013).

One of the best-documented historical case studies looks at the Abrahamic traditions that are at the extreme end of the cultural spectrum of beliefs in supernatural punishment. Textual evidence shows that even here there was a gradual cultural evolution. The Abrahamic God started off as a tribal war god with limited social and moral concern and eventually ended up as the unitary, supreme, moralizing deity of Judaism and of two of the world's largest world religions—Christianity and Islam (for an accessible summary of this evidence, see Wright 2009). Supernatural sources of public morality are also found in ancient China, Egypt, Babylon, and the Greco-Roman world (Norenzayan et al. 2015).

Hinduism, Buddhism, and Jainism, known as the karmic or dharmic world religions, also reveal a convergence between religion and public morality, although the precise psychological mechanisms are even less well understood than is the case for the Abrahamic religions and their precursors. Obeyesekere (2002) observed that the notion of rebirth is present in many small-scale societies but is originally disconnected from morality. Gradually, ideas of rebirth incorporate the idea of ethical causation across lifetimes; this sets the stage for these religious ideas to shape the cooperative sphere.

In summary—and setting aside debates about the precise causal pathways, which are currently underway (see Norenzayan et al. 2015 and associated commentaries; also see Baumard & Boyer 2013)—an important take-home point is that across the world and throughout historical time, one important source of theodiversity is a cultural gradient that goes from the human-like, morally indifferent, and limited gods of foraging societies to the all-powerful, omniscient, and moralizing Big Gods, karmic beliefs, and repetitive and extreme rituals that transmit deep faith.

THEODIVERSITY WITHIN WORLD RELIGIONS

The Abrahamic traditions, particularly Christianity and Islam and their offshoots (e.g., Mormonism, Baha'i), have a common cultural ancestry and share many commonalities. The same applies to the karmic world religions, namely Hinduism and Buddhism, and their cultural descendants (e.g., Jainism). These traditions have all been extremely successful through a combination of conversions, conquest, and demographic growth (hence their world-religion status). They inculcate intense parochial prosociality among their diverse adherents. World religions also share, to varying degrees, many pronatalist conservative values and beliefs, such as traditional gender roles, early marriage, and opposition to birth control and homosexuality (Norenzayan et al. 2015), which sustain high fertility rates and large families (Blume 2009). Nevertheless, there is breathtaking theodiversity within world religions as well.

Orthodoxy Versus Orthopraxy

All world religions fuse faith in a core set of beliefs with practices and rituals that, taken together, create large-scale moral communities (Atran & Henrich 2010, Haidt 2012, Norenzayan et al.

2015). However, world religions differ in the way they accomplish this feat of community building. Some religious traditions, such as Protestantism, privilege faith in a particular set of beliefs or dogma, referred to as orthodoxy; others, such as Judaism and Hinduism, and to a lesser extent, Catholicism, more strongly (or equally) emphasize practice, participation, and deeds, referred to as orthopraxy (Cohen 2015, Cohen et al. 2003). This divergence has wide-ranging implications for psychology and has important heuristic value in organizing many disparate findings from the cultural psychology of religion.

One such outcome is that Protestants are on average more likely than Catholics to show the fundamental attribution error (FAE), that is, the tendency to see behaviors as reflecting individual dispositions rather than social contexts and roles, a phenomenon also dubbed the fundamental attribution error (Li et al. 2012). This maps onto well-known cultural differences in independent versus interdependent self-construals (Markus & Kitayama 1991; see also Miller 1984 for evidence that Americans are more prone to the FAE than Hindus living in India).

This difference in emphasis also leads to important differences in moral judgment. In a now famous interview with *Playboy*, former US President Jimmy Carter confessed that he had committed adultery in his heart many times (cited in Cohen & Rozin 2001). In a series of studies, Cohen and Rozin found that this tendency to moralize thoughts is far more common among Protestants than Jews. Participants were asked questions such as whether it is morally wrong for a married man to feel lust for another woman or for a son to dislike his parents in his heart. Protestants were far harsher than Jews toward characters who had offensive thoughts even if there was no known evidence that they were behaving badly. It appears that this difference is at least partly due to Protestants' conviction that bad thoughts are likely to lead to bad behavior.

In orthodoxy, intentions are supremely important. In orthopraxy, intentions are less important than their consequences. Broadly consistent with these findings, and extending to another orthopraxic tradition, Laurin & Plaks (2014) found that Hindus were harsher than Protestants toward a person who had unintentionally done something harmful. Laurin & Plaks also found that high scores on an orthopraxy scale led to harsher moral judgment of unintended bad behavior than did high scores on an orthodoxy scale.

Yet, Protestants are less likely to moralize certain behaviors than people exposed to more orthopraxic traditions such as Catholics. Haidt et al. (1993) asked working-class and middle-class Brazilians and Americans whether it is morally wrong to behave in ways that are disgusting but harmless, such as cleaning the toilet with the national flag or eating the family dog after it was killed in a car accident. Catholic Brazilians (and particularly working-class people) found these acts morally wrong, more than Americans (and particularly middle-class people), who found these acts to be unconventional but not immoral. Although Haidt and colleagues did not specifically measure religious affiliation or involvement, their results are at least partly consistent with this framework.

The Protestant preoccupation with sinful thoughts also has implications as to whether such thoughts are channeled into creative pursuits in the form of the Freudian defense mechanism known as sublimation (Baumeister et al. 1998). In a series of experiments, Dov Cohen and his colleagues (discussed in Cohen et al. 2014; see also Kim et al. 2013) asked Protestant, Catholic, and Jewish male participants to vividly imagine being in a sexual encounter. In the experimental condition, this was an incestuous sexual encounter between a brother and a sister. In the control condition, the sister was replaced with the brother's girlfriend. Results showed that Protestants who had expressed conflicted feelings in the incest condition subsequently wrote more creative poems and designed better sculptures (as rated by independent judges). They also reported more interest in creative careers. No such effects were observed for Catholic or Jewish men. Similar cultural differences were observed when participants were instructed to suppress angry thoughts.

Orthodoxy:

a religious tradition's relative emphasis on belief, dogma, and faith

Orthopraxy:

a religious tradition's relative emphasis on practice and ritual

The role of the moral emotions in religious experiences, thoughts, and behaviors is yet another understudied topic in psychology. Empathy, compassion, guilt, shame, and pride are key emotions that are often at the center of religious narratives and experiences. Pride, for example, is discouraged in Buddhism, Christianity, and Islam and in fact is one of the seven cardinal sins in Catholicism. Yet world religious traditions differ in which particular emotions are cultivated and encouraged. In Christianity, high-intensity positive emotions such as excitement and joy are commonly celebrated (“Praise the Lord!”). In contrast, Buddhist traditions value low-intensity, calming, positive emotions such as serenity and equanimity (“Om”). This difference in emphasis is also found among Christian and Buddhist practitioners in conceptions of ideal affect (Tsai et al. 2007).

Socialization into a particular religious tradition also biases perceptual habits. This should not come as a surprise. There is now a large body of evidence showing that high-level, culturally mediated beliefs, expectations, and practices can penetrate low-level perceptual processes (e.g., Nisbett 2003, Nisbett & Miyamoto 2005). An example of such a perceptual task is the global-local task in which participants are presented with a large rectangle or square made of smaller rectangles or squares. Participants are then instructed to attend to either the global or the local shape in different sets of trials, and their response times are measured (Navon 1977). A general finding is the so-called global precedence effect, which indicates a perceptual bias toward seeing the forest before the trees, so to speak. In one Dutch study, this effect was weaker among Calvinists than among matched samples of atheists, Catholics, and Jews. In a related study, atheists who were raised Calvinist also showed reduced global precedence compared to atheists who were not raised in any religion, suggesting that these differences are already in place in early childhood (Colzato et al. 2010b). A different study found that the forest loomed even larger than the individual trees among Taiwanese Zen Buddhists compared to a matched sample of Taiwanese atheists (Colzato et al. 2010a). The fact that Calvinism dampens and Zen Buddhism accentuates this effect suggests that these differences are the result of the specific beliefs and practices embedded in these particular traditions.

The sources of these differences in perceptual habits are not very well understood. One possibility specific to Buddhism is that it encourages an intensely social orientation, for example, by offering spiritual practices that broaden the circle of compassion to all beings, and there is evidence that social orientation leads to a more holistic processing style (Nisbett & Miyamoto 2005). As to Protestantism, and Calvinism in particular, the emphasis is on individual responsibility and an inward focus (Cohen 2015), cultural traits that are known to encourage more analytic cognitive processing. Interestingly, this emphasis in traditional Calvinist upbringing goes beyond visual perception, and it has been implicated in a variety of psychological peculiarities of Calvinist-influenced American culture relative to other Western cultures, particularly in the moralization of work and the strong belief in meritocracy (for a review, see Uhlmann & Sanchez-Burks 2014).

Prosocial Behavior

Henrich et al. (2010) found that, across 15 populations of foragers, pastoralists, and horticulturalists, participation in world religions (Christianity or Islam), compared to adherence to local religions, increased prosocial behavior toward anonymous strangers in two economic games, controlling for community size, market integration, and demographic variables. The psychological literature that has examined religious influences on prosocial behavior in predominantly Christian samples is considerable and growing (Norenzayan 2013, Shariff et al. 2015). However, psychological studies of prosocial behavior among practitioners of Islam (around 1.6 billion worldwide)

and among karmic religious practitioners (around 1.5 billion worldwide) are rare. One recent field study found that exposure to the Muslim call to prayer in a Moroccan city increased generosity (Aveyard 2014). In another study conducted in a Jewish context in Israel, cooperation and coordination levels measured in an economic game were found to be higher in religious kibbutzim than in secular ones, and the effect was driven by the frequency of synagogue attendance levels in the religious kibbutzim, controlling for other factors (Sosis & Ruffle 2003).

In one seminal field study with modern Hindu samples, Dimitris Xygalatas and colleagues (2013) found that participation and observation of the extreme Hindu ritual Kavadi, discussed above, increased prosocial behavior within the community. Another study found that Hindu participants in Mauritius who were randomly assigned to play a common resource pool game in a Hindu temple showed more prosocial behavior than those who played the same game in a nearby Indian restaurant (Xygalatas et al. 2013). These findings provide experimental support to the idea that karmic religions, similar to Christianity, Islam, and Judaism, also encourage prosociality.

However, given the dearth of research, we know very little about the extent to which the psychological mechanisms that are being harnessed by Hindu and Buddhist religious elements are similar to those found in populations exposed to the Abrahamic faiths, or whether they recruit novel mechanisms. For example, we do not know whether Hindus and Buddhists intuitively link karmic effects to the powers of supernatural beings, such as Hindu gods, Buddha, and Bodhisattvas (saints with supernatural powers), or whether supernatural punishment is intuitively more potent than benevolence (Johnson 2009). In addition to the powerful prosocial effects of some forms of rituals, Buddhist contemplative practices of loving kindness may also play a measurable role in well-being, social support, and connection with others (Fredrickson et al. 2008).

Karma, Fate, Immanent Justice, and the Evil Eye

A related question is whether or not the karmic beliefs found in religions such as Hinduism and Buddhism are related to beliefs about immanent justice and related system justification ideologies (Callan et al. 2006, Jost et al. 2009). Belief in a just world is the conviction that the world is fundamentally fair and that people get what they deserve (Lerner 1980). Immanent justice is the intuition that, sooner or later, misdeeds rebound in the form of misfortune. This intuition could possibly be cross-culturally widespread, although studies looking at this question are currently lacking. One series of studies with American participants found higher rates of helping others when uncertainty is high and an outcome is strongly desired (e.g., waiting for the results of a medical test), as if fate could be influenced by good deeds (Converse et al. 2012). However, one cross-cultural study found that Christian participants believed that a misfortune was fated only if it was preceded by wrongdoing in this lifetime. Hindu participants saw the same misfortune to be fated even without prior wrongdoing, consistent with the Hindu idea of ethical causation across lifetimes (Young et al. 2011). These themes offer a treasure trove of important opportunities for future research.

Parallel to the idea that misdeeds eventually cause misfortune, another magical intuition is the notion of the evil eye (Dundes 1981), or the idea that a malevolent glare or envy by others can cause misfortune. This is a widespread cultural belief throughout the Mediterranean and as far east as Central Asia, which shares some similarities with witchcraft. As a result of this belief, people in these cultures often publicly downplay their successes or good fortune, such as a successful business or the birth of a healthy child, so as not to attract the evil eye. It is also common to protect oneself with talismans representing a blue eye, also called the evil eye, when pursuing favorable goals. Currently, the psychological literature is mostly silent on the underlying psychology and impact of such beliefs and practices.

Apathism:

a form of irreligion characterized by indifference or apathy toward religion

FROM BIG GODS TO NO GODS

Paradoxically, psychology's WEIRD lens has contributed not only to the neglect of religion, but also to its erosion as an interesting phenomenon in its own right. Secularization is not a big topic as it should be in psychology, although it is hotly debated within history (Smith 1982), philosophy (Taylor 2007), and sociology (Berger 1999, Norris & Inglehart 2004). Yet, psychology has profound and unique insights to offer to explanations of secularization and its impact on human thought and behavior. I discuss secularization in two parts. First, I explore current hypotheses on the psychological and sociocultural conditions that give rise to various forms of disbelief. Second, I explore what we know about how secularization, in turn, affects psychological processes.

Atheodiversity

The first fact to appreciate about secularization is that its proliferation is extremely uneven across the world. Secularization has been making great inroads in most of Europe, to a lesser extent in North America, and also in places such as Australia and New Zealand. But other parts of the world, such as Africa, most of Latin America, and South Asia—all societies with high fertility rates—remain as religious as they have ever been. Nevertheless, the current worldwide prevalence of nonbelievers is unprecedented and nontrivial, numbering in the hundreds of millions. Put another way, if nonbelievers all over the world were grouped together, they would be the fourth biggest world religion (Zuckerman 2007).

Scientific understanding of the origins and consequences of disbelief is also important for public policy. Recent years have seen high-profile popular debates concerning atheism and religion and frequent clashes between the two (Atran 2010, Haidt 2012). Moreover, there is considerable evidence that where there are religious majorities, atheists are a strongly stigmatized group (Gervais & Norenzayan 2013). Therefore, the second fact to appreciate about secularization is that without understanding its causes, we could not understand the sources of this cultural divide and how to bridge it.

The third important fact about secularization is that it is not monolithic, but it reflects diverse forms of disbelief and distancing from religion. We have seen that there are distinct and converging pathways to religious beliefs, rituals, and practices, traceable to cognitive, motivational, and cultural mechanisms. These pathways, if altered, lead to various forms of disbelief:³

- Cognitive mechanisms are implicated in mind-blind atheism, which is associated with deficits in mentalizing that underlie a variety of intuitions that support religious belief, and to analytic atheism, in which analytic cognitive processes override or block the cognitive intuitions that anchor religious beliefs (Norenzayan & Gervais 2013).
- Motivational mechanisms are implicated in apatheism, or indifference to religion induced by the reduction of existential threats such as death, hardship, and suffering that individuals and societies may face (Kay et al. 2009, Norris & Inglehart 2004).
- Cultural learning mechanisms are implicated in inCREdulous atheism when individuals fail to witness extravagant displays of religious commitment; other cultural learning mechanisms may be at work as well, such as growing up in a culture in which the majority and the prestigious cultural models do not display religious fervor (Henrich 2009).

³ So Bulbulia (2012) explores ennuiatheism, or a certain boredom regarding everything religious. See also Banerjee & Bloom (2013), Geertz & Markusson (2010), and McCauley (2011) for a discussion of the importance of cultural input in the rise of disbelief and its various forms.

This atheodiversity also shows up in the rise of a new and growing demographic group in the West, the spiritual but not religious (SBNR). Gaining momentum in the secularizing world, such as in Northern Europe and the West Coast of the United States and Canada, traditional organized religion is giving way not just to varieties of disbelief, but also to an abundance of yoga studios, spiritual retreats, and healing crystals (Fuller 2001). According to a *Newsweek* poll, 30% of Americans identified as “spiritual but not religious” in 2009, up from 24% in 2005 (Princet. Surv. Res. Assoc. Int. 2009). Our understanding of the reasons behind this growing movement is rudimentary at best: Here is another opportunity for psychological research to gain insights into an important but overlooked aspect of theodiversity. In one rare study, Saucier & Skrzypińska (2006) found that religiosity and spirituality have different personality correlates. Whereas religiosity is associated with traditionalism and low openness to experience, spirituality is associated with fantasy proneness, magical ideation, and high openness to experience (see also Emmons & Paloutzian 2003).

In a recent study looking at their cognitive profile, SBNRs differed from both conventional believers and nonbelievers in exhibiting a greater endorsement of paranormal beliefs and a more experiential relationship to the divine, such as feelings of being at one with the universe. SBNRs reject the traditional religious dogmas of their cultures but accept core intuitions such as mind-body dualism, teleology, and anthropomorphism, which support a variety of supernatural beliefs and experiences (A. Willard & A. Norenzayan, unpublished manuscript). Interestingly, the spiritual experiences found among the SBNRs—such as feelings of oneness with the universe, the sense that the universe is infused with a certain life force, and an emphasis on universal compassion and love—are also recurrent themes in some of the mystical traditions of world religions as culturally diverse as Buddhist contemplative practices such as Metta and Vipassana, yoga in Hinduism, Sufi Islam, Christian mysticism, and kabbalah in Judaism. One speculation is that these experiences tap into core psychological intuitions that are stripped away from the cultural baggage inherited from their respective traditions.

In summary, religious disbelief, much like religious belief, is not a unitary phenomenon resulting from a single process. Disbelief arises from alterations of the pathways that promote religious belief and is therefore infused with different subjective qualities. Whereas mind-blind atheism does not “get” religion, apatheism and inCREDulous atheism are indifferent toward religion, and analytic atheism is skeptical of religion. These paths to disbelief are theoretically distinct but are often intertwined in the real world, such that a given individual or subculture may come to disbelief through a combination of them. Future research may discover additional pathways. Also, secularization does not always lead to disbelief, in the sense of complete absence of any supernatural beliefs; equally often, it creates ripe conditions for diverse spiritual and paranormal beliefs and practices to proliferate.

The Religious Versus Nonreligious Divide

The religious/nonreligious divide (and its close cousin, conservatism/liberalism) also plays out within nation states such as the United States, with well-known polarizing consequences that affect politics, culture, and education (Haidt 2012). Here I highlight a few core areas of psychology—parochial prosociality, fertility rates, happiness and meaning making, moral psychology, sacred values, and fate attributions—in which a religious/nonreligious divide has been found and is the hypothesized cause of particular psychological outcomes (for a broader discussion of these differences, see McKay & Whitehouse 2015; Shariff et al. 2014, 2015).

There are broad conditions that make humans a prosocial species (Keltner et al. 2014). But are religious believers generally more prosocial than nonbelievers? In sociological surveys, religious believers in the United States report more charitable giving and greater volunteerism

(e.g., Brooks 2006). However, behavioral studies reveal a more nuanced picture. Religious commitment predicts prosocial tendencies best in contexts where secular institutions that encourage cooperation are weak, social monitoring is absent, reputational concerns are heightened, and the targets of prosociality are coreligionists (for reviews, see Batson et al. 1993, Norenzayan 2013). Moreover, religious commitment is an important moderator of religious priming effects. A recent meta-analysis found that religious priming increases prosocial behaviors for believers but has no average effect on nonbelievers (Shariff et al. 2015). Because the majority of psychological studies of religion and prosociality have been conducted in WEIRD contexts where the presence of secular institutions often crowds out the influence of religion, these moderating contexts have been overlooked until recently (Norenzayan et al. 2015).

Religious commitment can also be a source of happiness and a sense of meaning in life—two aspects of thriving that are increasingly at the center of attention within psychology (Keltner 2009). Past studies (predominantly conducted in the United States) have found that on average, more religious individuals are somewhat happier (Hackney & Sanders 2003). However, a growing number of cross-cultural studies suggest that religion's effect on happiness is not universal but is dependent on sociocultural and economic circumstances.

In one such study, based on a global sample of 154 nations, Diener et al. (2011) found that the religious/nonreligious divide in happiness emerges in places with high existential insecurity (poverty, high infant mortality, hunger) but disappears in wealthy and secure societies, where happiness levels are generally much higher for everyone regardless of religiosity levels. Another moderating factor is whether religiosity is normative. Gebauer et al. (2012) found in a sample of 180,000 people in 11 European nations that religiosity predicted psychological adjustment, but only in places where religiosity was culturally normative and generally valued by society; this association disappeared where the majority of the population was irreligious.

Finally, in an interesting study covering 132 nations, Oishi & Diener (2014) found that on average, individuals in poor nations were less happy but felt a stronger sense of meaning than individuals in wealthy nations. In turn, higher levels of religiosity explained the greater meaning experienced in the poorer nations. Oishi & Diener further showed that loss of meaning, but not loss of happiness, predicted the higher suicide rates in wealthier nations. Thus, when facing difficult life circumstances, happiness may not be an option, but one can still find meaning in suffering and keep on living, as Victor Frankl (1963) observed decades ago while surviving the brutality of a Nazi concentration camp. It appears that religious engagement is an important source of such sense of meaning in the face of suffering, although the reasons for this remain to be explored.

There is growing evidence that religious engagement shapes moral psychology in important ways (Haidt 2012). In a large global sample of 87 nations from the World Values Survey, Atkinson & Bourrat (2011) found that several aspects of religious commitment were associated with harsher condemnation of a range of moral transgressions, such as cheating on taxes or fare-skipping on public transport. Also, believers are more likely than nonbelievers to apply deontological, as opposed to utilitarian, considerations to many moral transgressions, such as stealing, lying, or committing treason (Piazza & Sousa 2014). Additionally, religious believers tend to ground moral judgments on a more diverse set of domains than nonbelievers. Whereas for nonbelievers morality is primarily and more narrowly about not harming, caring, and promoting fairness and justice, for believers morality also extends to loyalty to one's group, purity and sacredness, and respect for authority (Graham & Haidt 2010, Haidt 2012, Shweder et al. 1997). Religious individuals are also more likely to endorse explanations based on fate ("It was meant to happen") than the nonreligious, and this difference is statistically explained by the belief that supernatural agency controls and determines life outcomes (Norenzayan & Lee 2010), although a certain amount of belief in fate can be found even among nonbelievers (Banerjee & Bloom 2014).

Religions are also intertwined with sacred values. Unlike instrumental values that are subject to cost-benefit calculations and fall under rational actor models, sacred values are driven by emotionally loaded moral conviction and are often immune to trade-off. These relatively understudied values are better explained in terms of devoted actor models (Atran 2010, Tetlock 2003). For example, one cannot place any monetary value on one's family or community or on a national landmark that is considered a public treasure. Sacred values connected to the supernatural have measurable consequences for collective action dilemmas, such as sustainable forest management. Such an example is found among the Q'eqchi' in the highlands of Guatemala, who taboo the exploitation of certain forest species that are believed to be alive with local forest spirits (Atran et al. 2002).

Secular societies and irreligious individuals have plenty of sacred values (the national flag, the idea of democracy, a house passed down from one's ancestors for generations). However, it appears that religious conviction intensifies the tendency to see the world through a sacred lens (Sheikh et al. 2012). Why this would be is an interesting, unanswered question. One hypothesis is that imputing a divine origin to certain beliefs and behaviors that impose costs to the self but benefit the larger moral community (God forbids cheating) better insulates cooperative groups from potential defection and overexploitation, particularly under conditions of real or perceived environmental or intergroup threat (Atran 2010, Atran & Henrich 2010).

CONCLUSION

Theodiversity is to the scientific study of religion what biodiversity is to the scientific study of life on the planet. Here I have outlined underlying regularities and catalogued the landscape of theodiversity in three broad conduits, although there could be other fruitful approaches to carve this conceptual space. Despite its importance, very little of the world's theodiversity trickles into the psychological laboratory. There are fascinating and weighty questions open for study, such as sacred values, karmic beliefs, extreme rituals, mystical experiences, food taboos, witchcraft, magical thinking, religious conversion, and various forms of irreligion. But to tackle cross-culturally recurrent elements of religion, as well as plumb the depths of theodiversity, psychology must cast a wider net to capture the full range of human cultural diversity.

SUMMARY POINTS

1. Most of the world lives in overwhelmingly religious societies reflecting a great deal of theodiversity.
2. Theodiversity is rooted and channeled by several recurrent aspects of cognition, motivation, and cultural learning processes.
3. Theodiversity can be found along at least three dimensions: as a consequence of increasing social complexity, within world religions differing in their cultural histories, and as a result of secularization in some places.
4. There is growing evidence that diversity in religious beliefs and practices, as well as secularization, has profound consequences for a wide range of psychological outcomes.
5. There are several predictable pathways to secularization, a social transformation that is gaining momentum in some parts of the world and in some subcultures.

FUTURE ISSUES

1. Explaining theodiversity calls for expanding psychology's empirical database beyond WEIRD samples.
2. There are likely additional dimensions of theodiversity that are significant for human psychology.
3. We currently know little about the psychological processes that explain beliefs and behaviors related to karma, imminent justice, witchcraft, the evil eye, and related phenomena that are widespread around the world.
4. Sacred values are an important element in moral cognition, social identity, intergroup relations, and conflict and conflict resolution.
5. The processes of secularization that generate various forms of disbelief are another important but overlooked topic in psychology.

DISCLOSURE STATEMENT

The author is not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

ACKNOWLEDGMENTS

I thank the James McKeen Cattell Fund for a generous sabbatical fellowship that supported the writing of this article. I also thank the Social Sciences and Humanities Research Council of Canada for ongoing support from a partnership grant, "The Evolution of Religion and Morality" (895-2011-1009). Finally, I thank Adam Baimel, Konika Banerjee, Adam Cohen, Nick Epley, Susan Fiske, Jon Haidt, Cristine Legare, and Doug Medin and members of the Mosaic Lab at Northwestern University for valuable comments on an earlier draft.

LITERATURE CITED

- Allport GW. 1950. *The Individual and His Religion: A Psychological Interpretation*. Oxford, UK: Macmillan
- Arnett J. 2008. The neglected 95%: why American psychology needs to become less American. *Am. Psychol.* 63:602–14
- Atkinson QD, Bourrat P. 2011. Beliefs about God, the afterlife and morality support the role of supernatural policing in human cooperation. *Evol. Hum. Behav.* 32:41–49
- Atkinson QD, Whitehouse H. 2011. The cultural morphospace of ritual form: examining modes of religiosity cross-culturally. *Evol. Hum. Behav.* 32:50–62
- Atran S. 2002. *In Gods We Trust: The Evolutionary Landscape of Religion*. New York: Oxford Univ. Press
- Atran S. 2010. *Talking to the Enemy: Faith, Brotherhood and the (Un)Making of Terrorists*. New York: Harper-Collins
- Atran S, Ginges J. 2012. Religious and sacred imperatives in human conflict. *Science* 336:855–57
- Atran S, Henrich J. 2010. The evolution of religion: how cognitive by-products, adaptive learning heuristics, ritual displays, and group competition generate deep commitments to prosocial religions. *Biol. Theory* 5:18–30
- Atran S, Medin D, Ross N, Lynch E, Vapnarsky V, et al. 2002. Folkecology, cultural epidemiology, and the spirit of the commons: a "garden experiment" in the Maya lowlands, 1991–2001. *Curr. Anthropol.* 43:421–50

- Aveyard ME. 2014. A call to honesty: extending religious priming of moral behavior to Middle Eastern Muslims. *PLOS ONE* 9:e99447
- Banerjee K, Bloom P. 2013. Would Tarzan believe in God? *Trends Cogn. Sci.* 17:7–8
- Banerjee K, Bloom P. 2014. Why did this happen to me? Religious believers' and non-believers' teleological reasoning about life events. *Cognition* 133:277–303
- Barrett DB, Kurian GTK, Johnson TM, eds. 2001. *World Christian Encyclopedia: Religionists, Churches, Ministries: A Comparative Survey of Churches and Religions in the Modern World*. New York: Oxford Univ. Press
- Barrett JL. 2000. Exploring the natural foundations of religion. *Trends Cogn. Sci.* 4:29–34
- Barrett JL. 2004. *Why Would Anyone Believe in God?* Walnut Creek, CA: AltaMira
- Batson CD, Schoenrade P, Ventis WL. 1993. *Religion and the Individual: A Social-Psychological Perspective*. New York, NY: Oxford Univ. Press
- Baumard N, Boyer P. 2013. Explaining moral religions. *Trends Cogn. Sci.* 17:272–80
- Baumeister R, Dale K, Sommer L. 1998. Freudian defense mechanisms and empirical findings in modern social psychology: reaction formation, projection, displacement, undoing, isolation, sublimation, and denial. *J. Personal.* 66:1081–124
- Bellah R. 2011. *Religion in Human Evolution*. Cambridge, MA: Harvard Univ. Press
- Bentzen JS. 2013. *Origins of religiousness: the role of natural disasters*. Work. Paper 13-02, Dep. Econ., Univ. Copenhagen, Copenhagen, Den. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2221859
- Berger P. 1999. *The Desecularization of the World: Resurgent Religion and World Politics*. Grand Rapids, MI: Ethics Policy Cent.
- Berger P. 2014. *The Many Altars of Modernity: Toward a Paradigm for Religion in a Pluralist Age*. Boston, MA: Walter de Gruyter
- Bloom P. 2004. *Descartes' Baby*. New York: Basic Books
- Bloom P. 2012. Religion, morality, evolution. *Annu. Rev. Psychol.* 63:179–99
- Blume M. 2009. The reproductive benefits of religious affiliation. In *The Biological Evolution of Religious Mind and Behavior*, ed. E Voland, W Schiefenhover, pp. 117–26. Berlin: Springer-Verlag
- Botero CA, Gardner B, Kirby KR, Bulbulia J, Gavin MC, Gray R. 2014. The ecology of religious beliefs. *PNAS* 111:16784–89
- Boyer P. 2001. *Religion Explained*. New York: Basic Books
- Boyer P, Lienard P. 2006. Why ritualized behavior? Precaution systems and action parsing in developmental, pathological and cultural rituals. *Brain Behav. Sci.* 29:595–650
- Brooks AC. 2006. *Who Really Cares: The Surprising Truth About Compassionate Conservatism*. New York: Basic Books
- Bulbulia J. 2008. Free love: religious solidarity on the cheap. In *The Evolution of Religion: Studies, Theories and Critiques*, ed. J Bulbulia, S Richard, R Genet, E Harris, K Wynan, C Genet, pp. 153–60. Santa Margarita, CA: Collins Found.
- Bulbulia J. 2012. Ennui-theism. In *Science and the World's Religions*, Vol. 3: *Religions and Controversies*, ed. W Wildman, P McNamara, pp. 165–94. Santa Barbara, CA: Greenwood
- Callan MJ, Ellard JH, Nicol JE. 2006. The belief in a just world and immanent justice reasoning in adults. *Personal. Soc. Psychol. Bull.* 32:1646–58
- Chudek M, MacNamara R, Birch SA, Bloom P, Henrich J. 2014. *Developmental and cross-cultural evidence for intuitive dualism*. Work. Pap., Dep. Psychol., Univ. B. C. http://www2.psych.ubc.ca/~henrich/pdfs/ChudekEtAl_InuitiveDualism_WorkingPaper_June2014.pdf
- Chudek M, Muthukrishna M, Henrich J. 2015. Cultural evolution. In *Handbook of Evolutionary Psychology*, Vol. 2, ed. DM Buss. Hoboken, NJ: Wiley. In press
- Cohen AB. 2015. Religion's profound influences on psychology: morality, intergroup relations, self-construal, and enculturation. *Curr. Dir. Psychol. Sci.* 24:77–82
- Cohen AB, Hall DE, Koenig HG, Meador KG. 2005. Social versus individual motivation: implications for normative definitions of religious orientation. *Personal. Soc. Psychol. Rev.* 9:48–61
- Cohen AB, Rozin P. 2001. Religion and the morality of mentality. *J. Personal. Soc. Psychol.* 81:697–710
- Cohen AB, Siegel PR, Rozin P. 2003. Faith versus practice: different bases for religiosity judgments by Jews and Protestants. *Eur. J. Soc. Psychol.* 33:287–95

- Cohen D, Kim E, Hudson N. 2014. Religion, the forbidden, and sublimation. *Curr. Dir. Psychol. Sci.* 23:208–14
- Colzato LS, Hommel B, van den Wildenberg WPM, Hsieh S. 2010a. Buddha as an eye opener: a link between prosocial attitude and attentional control. *Front. Psychol.* 1:156
- Colzato LS, van Beest I, van den Wildenberg WPM, Scorolli C, Dorchin S, et al. 2010b. God: Do I have your attention? *Cognition* 117:87–94
- Converse BA, Risen JL, Carter TJ. 2012. Investing in karma: when wanting promotes helping. *Psychol. Sci.* 23:923–30
- Dechesne M, Pyszczynski T, Arndt J, Ransom S, Sheldon KM, et al. 2003. Literal and symbolic immortality: the effect of evidence of literal immortality on self-esteem striving in response to mortality salience. *J. Personal. Soc. Psychol.* 84(4):722–37
- Diener E, Tay L, Myers DG. 2011. The religion paradox: If religion makes people happy, why are so many dropping out? *J. Personal. Soc. Psychol.* 101:1278–90
- Dundes A. 1981. *The Evil Eye: A Casebook*. Madison: Univ. Wisc. Press
- Emmons RA, Paloutzian RF. 2003. The psychology of religion. *Annu. Rev. Psychol.* 54:377–402
- Epley N. 2014. *Mindwise: Why We Misunderstand What Others Think, Believe, Feel, and Want*. New York: Knopf
- Epley N, Converse BA, Delbosch A, Monteleone GA, Cacioppo JT. 2009. Believers' estimates of God's beliefs are more egocentric than estimates of other people's beliefs. *PNAS* 106:21533–38
- Epley N, Waytz A, Cacioppo JT. 2007. On seeing human: a three-factor theory of anthropomorphism. *Psychol. Rev.* 114:864–86
- Fiske AP, Haslam N. 1997. Is obsessive-compulsive disorder a pathology of the human disposition to perform socially meaningful rituals? Evidence of similar content. *J. Nerv. Ment. Dis.* 185:211–22
- Frankl VE. 1963. *Man's Search for Meaning: An Introduction to Logotherapy*. New York: Wash. Sq. Press
- Fredrickson BL, Cohn MA, Coffey KA, Pek J, Finkel SM. 2008. Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *J. Personal. Soc. Psychol.* 95:1045–62
- Fuller RC. 2001. *Spiritual But Not Religious: Understanding Unchurched America*. New York: Oxford Univ. Press
- Gebauer JE, Sedikides C, Neberich W. 2012. Religiosity, social self-esteem, and psychological adjustment: on the cross-cultural specificity of the psychological benefits of religiosity. *Psychol. Sci.* 23:158–60
- Geertz AW, Markusson GI. 2010. Religion is natural, atheism is not: on why everybody is both right and wrong. *Religion* 40:152–65
- Gervais WM, Norenzayan A. 2013. Religion and the origins of anti-atheist prejudice. In *Intolerance and Conflict: A Scientific and Conceptual Investigation*, ed. S Clarke, R Powell, J Savulescu, pp. 126–45. Oxford, UK: Oxford Univ. Press
- Gervais WM, Willard A, Norenzayan A, Henrich J. 2011. The cultural transmission of faith: why innate intuitions are necessary, but insufficient, to explain religious belief. *Religion* 41:389–410
- Gorsuch RL. 1988. Psychology of religion. *Annu. Rev. Psychol.* 39:201–21
- Graham J, Haidt J. 2010. Beyond beliefs: Religions bind individuals into moral communities. *Personal. Soc. Psychol. Rev.* 14:140–50
- Gray K, Jenkins AC, Heberlein AS, Wegner DM. 2010. Distortions of mind perception in psychopathology. *PNAS* 108:477–79
- Guthrie SE. 1993. *Faces in the Clouds: A New Theory of Religion*. New York: Oxford Univ. Press
- Hackney CH, Sanders GS. 2003. Religiosity and mental health: a meta-analysis of recent studies. *J. Sci. Study Religion* 42:43–55
- Haidt J. 2012. *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. New York: Pantheon Books
- Haidt J, Koller S, Dias M. 1993. Affect, culture, and morality, or is it wrong to eat your dog? *J. Personal. Soc. Psychol.* 65:613–28
- Heine SJ, Norenzayan A. 2006. Toward a psychological science for a cultural species. *Perspect. Psychol. Sci.* 1:251–69
- Henrich J. 2009. The evolution of costly displays, cooperation and religion: credibility enhancing displays and their implications for cultural evolution. *Evol. Hum. Behav.* 30(4):244–60

- Henrich J, Ensminger J, McElreath R, Barr A, Barrett C, et al. 2010a. Markets, religion, community size, and the evolution of fairness and punishment. *Science* 327(5972):1480–84
- Henrich J, Heine SJ, Norenzayan A. 2010b. The weirdest people in the world? *Behav. Brain Sci.* 33:61–83
- Henrich J, Henrich N. 2007. *Why Humans Cooperate: A Cultural and Evolutionary Explanation*. New York: Oxford Univ. Press
- Heywood BT, Bering JM. 2014. Meant to be: how religious beliefs and cultural religiosity affect the implicit bias to think teleologically. *Religion Brain Behav.* 4:183–201
- Hume D. 1956 (1757). *The Natural History of Religion*. London: Black
- James W. 1902. *The Varieties of Religious Experience: A Study in Human Nature*. New York: Longmans, Green & Co.
- Johnson DDP. 2009. The error of God: error management theory, religion and the evolution of cooperation. In *Games, Groups and the Global Good*, ed. SA Levin, pp. 169–80. Berlin: Springer-Verlag
- Johnson KA, Li YJ, Cohen AB. 2015. Fundamental motives and the varieties of religious experience. *Religion Brain Behav.* 5:197–261
- Just JT, Kay AC, Thoristtodor H. 2009. *Social and Psychological Bases of Ideology and System Justification*. New York: Oxford Univ. Press
- Kay AC, Whitson JA, Gaucher D, Galinsky AD. 2009. Compensatory control achieving order through the mind, our institutions, and the heavens. *Curr. Dir. Psychol. Sci.* 18(5):264–68
- Kelemen D. 2004. Are children “intuitive theists”? *Psychol. Sci.* 15:295–301
- Kelemen D, Rosset E. 2009. The human function compunction: teleological explanation in adults. *Cognition* 111:138–43
- Kelly RL. 1995. *The Foraging Spectrum: Diversity in Hunter-Gatherer Lifeways*. Washington, DC: Smithsonian Inst. Press
- Keltner D. 2009. *Born to Be Good: The Science of a Meaningful Life*. New York: Norton
- Keltner D, Kogan A, Piff PK, Saturn S. 2014. The sociocultural appraisals, values, and emotions (SAVE) framework of prosociality: core processes from gene to meme. *Annu. Rev. Psychol.* 65:425–60
- Kim E, Zeppenfeld V, Cohen D. 2013. Sublimation, culture, and creativity. *J. Personal. Soc. Psychol.* 105:639–66
- Laurin K, Kay AC, Fitzsimons GM. 2012. Divergent effects of activating thoughts of God on self-regulation. *J. Personal. Soc. Psychol.* 102:4–21
- Laurin K, Plaks JE. 2014. Religion and punishment: opposing influences of orthopraxy and orthodoxy on reactions to unintentional acts. *Soc. Psychol. Personal. Sci.* 5:835–43
- Legare CH, Evans EM, Rosengren KS, Harris PL. 2012. The coexistence of natural and supernatural explanations across cultures and development. *Child Dev.* 83:779–93
- Legare CH, Souza AL. 2012. Evaluating ritual efficacy: evidence from the supernatural. *Cognition* 124:1–15
- Legare CH, Souza AL. 2014. Searching for control: priming randomness increases the evaluation of ritual efficacy. *Cogn. Sci.* 38:152–61
- Legare CH, Watson-Jones RE. 2015. The evolution and ontogeny of ritual. In *Handbook of Evolutionary Psychology*, Vol. 2, ed. DM Buss. Hoboken, NJ: Wiley. In press
- Lerner MJ. 1980. *The Belief in a Just World: A Fundamental Delusion*. New York: Plenum Press
- Lester T. 2002. Oh gods! *The Atlantic Monthly*, February. <http://www.theatlantic.com/magazine/archive/2002/02/oh-gods/302412/>
- Li YJ, Johnson KA, Cohen AB, Williams MJ, Knowles ED, Chen Z. 2012. Fundamental(ist) attribution error: Protestants are dispositionally focused. *J. Personal. Soc. Psychol.* 102:281–90
- Markus HR, Kitayama S. 1991. Culture and the self: implications for cognition, emotion, and motivation. *Psychol. Rev.* 98(2):224–53
- Marlowe FW. 2010. *The Hadza: Hunter-Gatherers of Tanzania*. Berkeley: Univ. Calif. Press
- McCauley RN. 2011. *Why Religion Is Natural and Science Is Not*. New York: Oxford Univ. Press
- McCauley RN, Lawson ET. 2002. *Bringing Ritual to Mind: Psychological Foundations of Cultural Forms*. Cambridge, UK: Cambridge Univ. Press
- McKay R, Herold J, Whitehouse H. 2013. Catholic guilt? Recall of confession promotes prosocial behaviour. *Religion Brain Behav.* 3:201–9
- McKay R, Whitehouse H. 2015. Religion and morality. *Psychol. Bull.* 141:447–73

- McNamara RA, Norenzayan A, Henrich J. 2015. Supernatural punishment, in-group biases, and material insecurity: experiments and ethnography from Yasawa, Fiji. *Religion Brain Behav.* In press. doi:10.1080/2153599X.2014.921235
- Medin DL, Atran S. 2004. The native mind: biological categorization and reasoning in development and across cultures. *Psychol. Rev.* 111(4):960–83
- Medin DL, Bennis WM, Chandler M. 2010. Culture and the home-field disadvantage. *Perspect. Psychol. Sci.* 5:708–13
- Miller JG. 1984. Culture and the development of everyday social explanation. *J. Personal. Soc. Psychol.* 46:961–78
- Navon D. 1977. Forest before trees: the precedence of global features in visual perception. *Cogn. Psychol.* 9:353–83
- Nemeroff C, Rozin P. 2000. The making of the magical mind. In *Imagining the Impossible: Magical, Scientific, and Religious Thinking in Children*, ed. K Rosengren, C Johnson, P Harris, pp. 1–34. Cambridge, UK: Cambridge Univ. Press
- Nielsen M, Tomaselli K. 2010. Overimitation in Kalahari Bushman children and the origins of human cultural cognition. *Psychol. Sci.* 21:729–36
- Nisbett RE. 2003. *A Geography of Thought*. New York: Free Press
- Nisbett RE, Miyamoto Y. 2005. The influence of culture: holistic versus analytic perception. *Trends Cogn. Sci.* 9:467–73
- Norenzayan A. 2013. *Big Gods: How Religion Transformed Cooperation and Conflict*. Princeton, NJ: Princeton Univ. Press
- Norenzayan A, Gervais WM. 2013. The origins of religious disbelief. *Trends Cogn. Sci.* 17:20–25
- Norenzayan A, Hansen IG. 2006. Belief in supernatural agents in the face of death. *Personal. Soc. Psychol. Bull.* 32:174–87
- Norenzayan A, Heine SJ. 2005. Psychological universals: What are they and how can we know? *Psychol. Bull.* 135:763–84
- Norenzayan A, Lee A. 2010. It was meant to happen: explaining cultural variations in fate attributions. *J. Personal. Soc. Psychol.* 98:702–20
- Norenzayan A, Shariff AF, Gervais WM, Willard A, McNamara RA, et al. 2015. The cultural evolution of prosocial religions. *Behav. Brain Sci.* <http://dx.doi.org/10.1017/S0140525X14001356>. In press
- Norris P, Inglehart R. 2004. *Sacred and Secular: Religion and Politics Worldwide*. Cambridge, UK: Cambridge Univ. Press
- Obeyesekere G. 2002. *Imagining Karma: Ethical Transformation in Amerindian, Buddhist, and Greek Rebirth*. Berkeley: Univ. Calif. Press
- Oishi S, Diener E. 2014. Residents of poor nations have a greater sense of meaning in life than residents of wealthy nations. *Psychol. Sci.* 25:422–30
- Pew Res. Cent. 2012. *The global religious landscape*. Rep., Dec. 18. <http://www.pewforum.org/2012/12/18/global-religious-landscape-exec/>
- Piazza J, Sousa P. 2014. Religiosity, political orientation, and consequentialist moral thinking. *Soc. Psychol. Personal. Sci.* 5:334–42
- Princet. Surv. Res. Assoc. Int. 2009. *Newsweek poll: a post-Christian nation?* Retrieved May 29, 2014. <http://www.psrai.com/filesave/0904%20ftop%20w%20methodology.pdf>
- Purzycki BG. 2011. Tyvan cher eezi and the socioecological constraints of supernatural agents' minds. *Religion Brain Behav.* 1(1):31–45
- Purzycki BG. 2013. The minds of Gods: a comparative study of supernatural agency. *Cognition* 129:163–79
- Rappaport RA. 1999. *Ritual and Religion in the Making of Humanity*. Cambridge, UK: Cambridge Univ. Press
- Richerson PJ, Boyd R. 2005. *Not by Genes Alone: How Culture Transformed Human Evolution*. Chicago: Univ. Chicago Press
- Roes FL, Raymond M. 2003. Belief in moralizing gods. *Evol. Hum. Behav.* 24(2):126–35
- Rozin P. 2007. Exploring the landscape of modern academic psychology: finding and filling the holes. *Am. Psychol.* 62:751–66
- Rozin P. 2009. What kind of empirical research should we publish, fund, and reward? A different perspective. *Perspect. Psychol. Sci.* 4:435–39

- Rutjens BT, Van Der Pligt J, Van Harreveld F. 2010. Deus or Darwin: randomness and belief in theories about the origin of life. *J. Exp. Soc. Psychol.* 46(6):1078–80
- Sanchez-Burks J, Lee F. 2007. Culture and workways. In *Handbook of Cultural Psychology*, Vol. 1, ed. S Kitayama, D Cohen, pp. 346–69. New York: Guilford
- Saucier G, Skrzypiąska K. 2006. Spiritual but not religious? Evidence for two independent dimensions. *J. Personal.* 74:1257–92
- Schjoedt U, Sørensen J, Nielbo KL, Xygalatas D, Mitkidis P, Bulbulia J. 2013. Cognitive resource depletion in religious interactions. *Religion Brain Behav.* 3:39–55
- Sears D. 1986. College sophomores in the laboratory: influences of a narrow database on social psychology's view of human nature. *J. Personal. Soc. Psychol.* 51:515–30
- Shariff AF, Piazza J, Kramer SR. 2014. Morality and the religious mind: why theists and non-theists differ. *Trends Cogn. Sci.* 18(9):439–41
- Shariff AF, Rhemtulla M. 2012. Divergent effects of belief in heaven and hell on national crime rates. *PLOS ONE* 7:e39048
- Shariff AF, Willard AK, Andersen T, Norenzayan A. 2015. Religious priming: a meta-analysis with a focus on prosociality. *Personal. Soc. Psychol. Rev.* In press
- Sheikh H, Ginges J, Coman A, Atran S. 2012. Religion, group threat and sacred values. *Judgm. Decis. Mak.* 7:110–18
- Shweder RA, Much NC, Mahapatra M, Park L. 1997. The “big three” of morality (autonomy, community, and divinity), and the “big three” explanations of suffering. In *Morality and Health*, ed. A Brandt, P Rozin, pp. 119–69. New York: Routledge
- Sibley CG, Bulbulia J. 2012. Faith after an earthquake: a longitudinal study of religion and perceived health before and after the 2011 Christchurch New Zealand earthquake. *PLOS ONE* 7(12):e49648
- Smith JZ. 1982. *Imagining Religion: From Babylon to Jonestown*. Chicago: Univ. Chicago Press
- Sørensen J. 2007. *A Cognitive Theory of Magic*. Lanham, MD: AltaMira
- Sosis R. 2000. Religion and intra-group cooperation: preliminary results of a comparative analysis of utopian communities. *Cross-Cult. Res.* 34:70–87
- Sosis R, Alcorta C. 2003. Signaling, solidarity, and the sacred: the evolution of religious behavior. *Evol. Anthropol.* 12:264–74
- Sosis R, Ruffle BJ. 2003. Religious ritual and cooperation: testing for a relationship on Israeli religious and secular kibbutzim. *Curr. Anthropol.* 44:713–22
- Sperber D. 1996. *Explaining Culture: A Naturalistic Approach*. Oxford, UK: Wiley-Blackwell
- Sperber D, Clément F, Heintz C, Mascaro O, Mercier H, et al. 2010. Epistemic vigilance. *Mind Lang.* 25:359–93
- Stausberg M. 2010. Prospects in theories of religion. *Method Theory Study Religion* 22:223–28
- Swanson GE. 1960. *The Birth of the Gods*. Ann Arbor: Univ. Mich. Press
- Taves A. 2009. *Religious Experience Reconsidered: A Building-Block Approach to the Study of Religion and Other Special Things*. Princeton, NJ: Princeton Univ. Press
- Taylor C. 2007. *A Secular Age*. Cambridge, MA: Belknap
- Tetlock PE. 2003. Thinking about the unthinkable: coping with secular encroachments on sacred values. *Trends Cogn. Sci.* 7:320–24
- Tomasello M. 2001. *The Cultural Origins of Human Cognition*. Cambridge, MA: Harvard Univ. Press
- Tsai JL, Miao F, Seppala E. 2007. Good feelings in Christianity and Buddhism: religious differences in ideal affect. *Personal. Soc. Psychol. Bull.* 33:409–21
- Tylor EB. 1974 (1871). *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Art and Custom*. New York: Gordon
- Uhlmann EL, Sanchez-Burks J. 2014. The implicit legacy of American Protestantism. *J. Cross-Cult. Psychol.* 45:991–1005
- Vail KE, Arndt J, Abdollahi A. 2012. Exploring the existential function of religion and supernatural agent beliefs among Christians, Muslims, atheists, and agnostics. *Personal. Soc. Psychol. Bull.* 38(10):1288–300
- Waytz A, Gray K, Epley N, Wegner DM. 2010. Causes and consequences of mind perception. *Trends Cogn. Sci.* 14:383–88

- Whitehouse H. 2004. *Modes of Religiosity: A Cognitive Theory of Religious Transmission*. Walnut Creek, CA: AltaMira
- Willard A, Norenzayan A. 2013. Cognitive biases explain religious belief, paranormal belief, and belief in life's purpose. *Cognition* 129:379–91
- Wright R. 2009. *The Evolution of God*. New York: Little, Brown & Co.
- Xygalatas D, Mitkidis P, Fischer R, Reddish P, Skewes J, et al. 2013. Extreme rituals promote prosociality. *Psychol. Sci.* 24:1602–5
- Young MJ, Morris MW, Burrus J, Krishnan L, Regmi MP. 2011. Deity and destiny: patterns of fatalistic thinking in Christian and Hindu cultures. *J. Cross-Cult. Psychol.* 42:1032–55
- Zuckerman P. 2007. Atheism: contemporary numbers and patterns. In *The Cambridge Companion to Atheism*, ed. M Martin, pp. 47–65. Cambridge, UK: Cambridge Univ. Press